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Total Number of Pages in This Submission

Application Number	10/046,858
Filing Date	1/13/02
First Named Inventor	Steven Teig, et al.
Group Art Unit	2825
Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number
	SPLX.P0124

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Firm Or Individual name	Mani Adeli, Reg. No. 39,585 of Stattler Johansen & Adeli LLP
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PATENT  
Docket No. SPLX.P0124

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Mani Addi

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of:

Steven Teig, et al.

Serial No.: 10/046,858

Filing Date: 1/13/02

For: **METHOD AND APPARATUS FOR  
PLACING CIRCUIT MODULES**

**INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97**

Commissioner for Patents  
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Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit with this Information Disclosure Statement the attached Form PTO-1449, and copies of the documents listed in the 1449 form for consideration by the Examiner. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to

the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

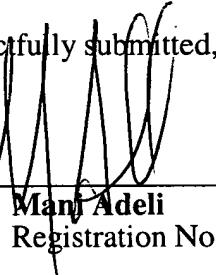
This Information Disclosure Statement is submitted within three months of the application filing date or before the mailing date of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

However, in the unlikely event that the Patent Office determines that additional fees, extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-1128** referencing SPLX.P0124. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: November 13, 2003

Respectfully submitted,

By:

  
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				Filing Date	1/13/02
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	
Sheet	1	of	7	Attorney Docket Number	SPLX.P0124

U.S. PATENT DOCUMENTS						
Examiner* Initials	Cite No. <sup>1</sup>	U.S. Patent Document Number	Kind Code <sup>2</sup> (if known)	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	2001/0009 031	A1	07-19-2001	Nitta et al.	
	2.	2002/0182 844	A1	12-05-2002	Igarashi et al.	
	3.	2003/0025 205	A1	02-06-2003	Shively	
	4.	2003/0005 399	A1	01-02-2003	Igarashi et al.	
	5.	4,593,363		06-03-1986	Burstein et al.	
	6.	4,855,929		08-08-1989	Nakajima	
	7.	5,267,176		11-30-1993	Antreich et al.	
	8.	5,375,069		12-20-1994	Satoh et al.	
	9.	5,587,923		12-24-1996	Wang	
	10.	5,618,744		04-08-1997	Suzuki et al.	
	11.	5,633,479		05-27-1997	Hirano	
	12.	5,637,920		06-10-1997	Loo	
	13.	5,640,327		06-17-1997	Ting	
	14.	5,663,891		09-02-1997	Bamji et al.	
	15.	5,757,089		05-26-1998	Ishizuka	
	16.	5,784,289		07-21-1998	Wang	
	17.	5,798,936		08-25-1998	Cheng	
	18.	5,838,583		11-17-1998	Varadarajan et al.	
	19.	5,889,677		03-30-1999	Yasuda et al.	
	20.	5,980,093		11-09-1999	Jones et al.	

Examiner Signature	Date Considered
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				Filing Date	1/13/02
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	
Sheet	2	of	7	Attorney Docket Number	SPLX.P0124

U.S. PATENT DOCUMENTS					
21.	6,070,108		05-30-2000	Andreev et al.	
22.	6,128,767		10-03-2000	Chapman	
23.	6,209,123	B1	03-27-2001	Maziasz et al.	
24.	6,253,363	B1	06-26-2001	Gasanov et al.	
25.	6,295,634	B1	09-25-2001	Matsumoto	
26.	6,324,674	B2	11-27-2001	Andreev et al.	
27.	6,324,675	B1	11-27-2001	Dutta et al.	
28.	6,327,693	B1	12-04-2001	Cheng et al.	
29.	6,327,694	B1	12-04-2001	Kanazawa	
30.	6,330,707	B1	12-11-2001	Shinomiya et al.	
31.	6,378,121	B1	04-23-2002	Hiraga	
32.	6,407,434	B1	06-18-2002	Rostoker et al.	
33.	6,412,102	B1	06-25-2002	Andreev et al.	
34.	6,415,422	B1	07-02-2002	Mehrotra et al.	
35.	6,442,743	B1	08-27-2002	Sarrafzadeh et al.	
36.	6,448,591	B1	09-10-2002	Juengling	
37.	6,473,891	B1	10-29-2002	Shively	
38.	6,480,991	B1	11-12-2002	Cho et al.	
39.	6,490,713	B2	12-03-2002	Matsumoto	
40.	6,519,751	B2	02-11-2003	Sriram et al.	
41.	6,543,043	B1	04-01-2003	Wang et al.	
42.	6,546,540	B1	04-08-2003	Igarashi et al.	
43.	6,557,145	B2	04-29-2003	Boyle et al.	

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NOV 17 2003 Substitute for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/046,858
Sheet	3	of	7	Filing Date	1/13/02
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	
				Attorney Docket Number	SPLX.P0124

<b>U.S. PATENT DOCUMENTS</b>					
	44.	6,567,967	B2	05-20-2003	Greidinger et al.

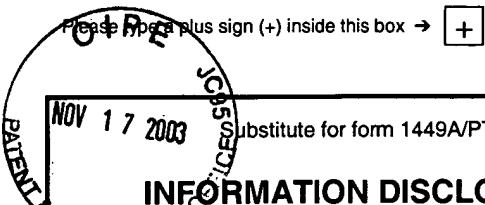
<b>FOREIGN PATENT DOCUMENTS</b>							
Examiner* Initials	Cite No. <sup>1</sup>	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
Office <sup>3</sup>	Number <sup>4</sup>	Kind Code (if known)					
45.	JP	411296560	A	Matsumoto et al.	10-29-1999	with English translation of Abstract;	
46.	JP	2000-82743	A	Igarashi et al.	03-21-2000	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
47.	JP	H03-173471	A	Tawada et al.	07-26-1991	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
48.	JP	H05-243379	A	Masako Kubota	09-21-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
49.	JP	H05-102305	A	Akihiro Sato	04-23-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓

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(use as many sheets as necessary)

Sheet	4	of	7	Attorney Docket Number	SPLX.P0124
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**FOREIGN PATENT DOCUMENTS**

50.	JP	H07-86407	A	Shinpei Miura	03-31-1995	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
51.	JP	H09-162279	A	Masaaki Yoshida	06-20-1997	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓

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				Examiner Name	
Sheet	5	of	7	Attorney Docket Number	SPLX.P0124

### FOREIGN PATENT DOCUMENTS

### NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T e
	52.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.	
	53.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp. 956-931.	
	54.	Brambilla, A. et al., Statistical Method for the Analysis of Interconnects Delay in Submicrometer Layouts, IEEE, 8/2001, pp. 957-966.	
	55.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.	
	56.	Chen, H. et al., Physical Planning of On-Chip Interconnect Architectures, 2002, IEEE, International Conference, pp. 30-35.	
	57.	Cheng, K. et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures, pp 47-52, 2000.	
	58.	Cheng, K., Steiner Problem in Octilinear Routing Model, a Thesis Submitted for the Degree of Master of Science, National University Singapore, 1995, pp. 1-122.	
	59.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, iss. 3A, pp. 929-933.	
	60.	Cong, J. et al., Efficient Heuristics for the Minimum Shortest Path Steiner Arborescence Problem with Applications to VLSI Physical Design, Cadence Design Systems and UCLA Computer Science Department, pp.88-95.	
	61.	Cong, J. et al., Performance-Driven Multi-Layer General Routing for PCB/MCM Designs, UCLA Computer Science Department, 1998, pp. 356-361.	
	62.	Enbody, R. et al., Near-Optimal <i>n</i> -Layer Channel Routing, 23 <sup>rd</sup> Design Automation Conference, 1986, pp. 708-714.	
	63.	Fang, S. et al., Constrained Via Minimization with Practical Considerations for Multi-Layer VLSI/PCB Routing Problems, 28 <sup>th</sup> ACM/IEEE Design Automation Conference, 1991, pp. 60-65.	
	64.	Hom, I. et al., Estimation of the Number of Routing Layers and Total Wirelength in a PCB Through Wiring Distribution Analysis, 1996, pp. 1-6.	

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(use as many sheets as necessary)

Sheet	6	of	7	Attorney Docket Number	SPLX.P0124
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**FOREIGN PATENT DOCUMENTS**

65.	Hong, X. et al., Performance-Driven Steiner Tree Algorithms for Global Routing, 30 <sup>th</sup> ACM/IEEE Design Automation Conference, 1993, pp. 177-181.
66.	Hu, J et al.: "A Timing-Constrained algorithm for Simultaneous Global Routing of Multiple Nets" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA USA, 5-9 Nov. 2000. Pages 99-103.
67.	Kastner R et al.: "Predictable Routing" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. Pages 110-113.
68.	Khoo, K. et al., An Efficient Multilayer MCM Router Based on Four-Via Routing, 30 <sup>th</sup> ACM/IEEE Design Automation Conference, 1993, pp. 590-595.
69.	Lillis, J. et al., Table-Lookup Methods for Improved Performance-Driven Routing, 1998, pp. 368-373.
70.	Lipski, W. et al., A Unified Approach to Layout Wirability, Mathematical Systems Theory, 1987, pp. 189-203.
71.	Lodi, E. et al., A Preliminary Study of a Diagonal Channel-Routing Model, Algorithmica, 1989, pp.585-597.
72.	Lodi, E. et al., Lecture Notes in Computer Science, A 4d Channel Router for a Two Layer Diagonal Model, pp. 464-476, July 1988.
73.	Naclerio, N. et al., Via Minimization for Gridless Layouts, 24 <sup>th</sup> ACM/IEEE Design Automation Conference, 1987, pp. 159-165.
74.	Nam, G. et al, Satisfiability-Based Layout Revisited: Detailed Routing of Complex FPGAs Via Search-Based Boolean SAT, 1999, pp. 167-175..
75.	Oh, J. et al., Constructing Lower and Upper Bounded Delay Routing Trees Using Linear Programming, 33 <sup>rd</sup> Design Automation Conference, 1996.
76.	Partitioning Logic on to Graph Structure, IBM Technical Disclosure Bulletin, February 1990, vol. 32, iss. 9A, pp. 469-475.
77.	Phillips, N., Channel Routing by Constraint Logic, Department of Computer Science Southern Illinois University, ACM, 1992.

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Sheet 7 of 7

Substitute for form 1449A/PTO				Application Number	10/046,858
				Filing Date	1/13/02
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	
Sheet	7	of	7	Attorney Docket Number	SPLX.P0124

#### FOREIGN PATENT DOCUMENTS

78.	Takashima, Y. et al, Routability of FPGAs with Extremal Switch-Block Structures, IEICE Trans. Fundamentals, vol. E81-A, No. 5, May 1998, pp. 850-856.
79.	Thakur, S. et al., Algorithms for a Switch Module Routing Problem, 1994, pp. 265-270.
80.	Theune, D., et al., HERO: Hierarchical EMC-constrained routing, 11/1992, IEEE pp 468-472
81.	Tseng, H., Timing and Crosstalk Driven Area Routing, pp. 378-381.
82.	Wang, D., Novel Routing Schemes for IC Layout, Part I: Two-Layer Channel Routing, 28 <sup>th</sup> ACM/IEEE Automation Conference, 1991, pp. 49-53.
83.	Wang, M. et al., Modeling and Minimization of Routing Congestion, Jan. 2000, IEEE proceedings of ASP-DAC, Asia and South Pacific, pp. 185-190.
84.	Wood, G. et al., FPGA Routing and Routability Estimation Via Boolean Satisfiability, Department of Electrical and Computer Engineering Carnegie Mellon University, Pittsburgh, PA, pp. 119-125.
85.	Zhang, C.X. et al., Floorplan Design Using a Hierarchical Neural Learning Algorithm, IEEE, 6/1991. pp. 2060-2063.
86.	Zhou, H. et al., An Optimal Algorithm for River Routing with Crosstalk Constraints, 1996.
87.	Zhou, H. et al., Global Routing with Crosstalk Constraints, Department of Computer Sciences, University of Texas, 1998, pp. 374-377.
88.	Zhou, H. et al., Optimal River Routing with Crosstalk Constraints, ACM Transactions on Design Automation of Electronic Systems, vol. 3, No. 3, July 1998, pp. 496-514.

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